Description

Designed for operating single acting up-stroking cylinders, which are expected to hold pressure during their working cycle. The valve also ensures smooth decompression prior to return of the cylinder. Large return oil passage in the valve helps to return of the cylinder rapidly. Operations of multiple independent single acting cylinders can be achieved by using the valves connected in series. (Please refer circuit on last page.) The valves can be supplied with features for mounting Pressure Regulator valve and Pressure Switch to eliminate interconnecting pipes.

Technical specifications

Construction........................................ Spool with Poppet.
Mounting / Standard.............................. Threaded body (Company standard)
Mounting position................................. Optional, horizontal spool axis preferred.
Flow direction...................................... As per Hydraulic Symbol.
Maximum operating pressure................. At port P, A, B, C, G........350 bar.
                                            Port T.......Pressure drop in the tank line adversely affect the returning speed of the cylinder, Hence must be kept as low as possible.

Pilot pressure..................................... At port X= (Cylinder Pr. /16 ) + 1 bar.
Pilot oil flow ...................................... 2 l/min (min).
Hydraulic medium................................. Mineral oil.
Viscosity range.................................... 10 cSt to 380 cSt
Fluid temperature range....................... -20°C to +70°C.
Fluid cleanliness requirement............... ISO 4406 20/18/15 or better.
Nominal flow handling capacity.............. refer performance curve.
Mass (approx)..................................... DES 10............10.5 kg.
                                            DES 20 ...........25.2 kg.
Unit dimensions
Valve model: DES 10

Note: Valve with Mirror image face option, will have ports A, C, T and G on opposite face and dimension 20 (marked *) of port P will be 50. (Ask for details, if needed.)

Performance Curves for DES 10
(Pressure drop related to flow, with 46 cSt at 40°C)
Unit dimensions
Valve model: DES 20

<table>
<thead>
<tr>
<th>Port</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, P</td>
<td>G1</td>
</tr>
<tr>
<td>B, T</td>
<td>G1-1/2</td>
</tr>
<tr>
<td>C</td>
<td>G 3/8</td>
</tr>
<tr>
<td>G, X, Y</td>
<td>G1/4</td>
</tr>
</tbody>
</table>

Note: Valve with Mirror image face option, will have ports A, C, T and G on opposite face and dimension 26 (marked *) of port P will be 74. (Ask for details, if needed)

Performance Curves for DES 20
(Pressure drop related to flow, with 46 cSt at 40°C)
Ordering code

4 way directional control valve. Solenoid operated with pressure holding facility at port B.

<table>
<thead>
<tr>
<th>Model</th>
<th>Design code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DES 10</td>
<td>01</td>
</tr>
<tr>
<td>DES 20</td>
<td>14</td>
</tr>
</tbody>
</table>

Design code subjected to change. Installation dimensions remain same for design code
01 thru 09 for DES 10
11 thru 19 for DES 20

A | Provision for mounting Pr. switch 1PS* (350 bar max)
B | Provision for mounting Pr. relief valve (DPR*06)

Omit if not required.

NOTE: For actuation of this valve, solenoid DCV (refer spool type) to be ordered separately.

Spool type required: 'J' type

Hydraulic circuit showing typical application of valve DES10 / DES 20